



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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February 9, 2004

Anthony R. Pietrangelo
Senior Director, Risk Regulation
Nuclear Generation
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, D.C. 20006

**SUBJECT: PRELIMINARY REVIEW OF THE NUCLEAR ENERGY INSTITUTE'S (NEI's)
"FIRST DRAFT" OF THE "PWR [PRESSURIZED WATER REACTOR]
CONTAINMENT SUMP EVALUATION METHODOLOGY"**

Dear Dr. Pietrangelo:

I am responding to the October 31, 2003, transmittal of NEI's "first draft" of the "PWR Containment Sump Evaluation Methodology." Even though comments and review of a "draft" methodology by the Nuclear Regulatory Commission (NRC) is unusual, enclosed is the preliminary review by Los Alamos National Laboratory (LANL), the contractor assigned. The preliminary review is provided in order to expedite and assist in the development of this sump methodology and to meet our schedule for resolution of GSI-191, "Assessment of Debris Accumulation" in an effective and efficient manner. A more detailed evaluation is being finalized for transmittal shortly. We will also send you our response to your proposals to use leak before break and fracture mechanics to limit the break size later this month.

In addition to the technical issues identified in the enclosure, the NRC staff is concerned with several other issues raised in the transmittal letter. First, the October 31, 2003, letter refers to the transmitted methodology as a "first draft," which implies that a second draft, and/or more drafts, may follow. However, in subsequent communications in December 2003, NEI relayed that it is awaiting NRC response to the draft methodology before submitting its final version of the overall methodology. Furthermore, comments provided by NRC to NEI in earlier meetings were not addressed in the draft methodology. This presents a concern for meeting the schedule. Although several cycles of review were used in the previous BWR [Boiling Water Reactor] Sump Methodology Evaluation, the staff does not plan to use the same lengthy review process for this PWR Containment Sump Methodology Evaluation. The NRC staff has established a schedule for resolution of GSI-191, which includes issuing a Generic Letter by August 2004, which will rely on licensees using a methodology approved by the NRC staff. As you may know, the NRC staff is arranging working meetings with the NEI staff on February 12, 2004, and March 17, 2004 (tentatively), to expedite and assist NEI in developing an evaluation methodology that could be endorsed by the NRC on that schedule.

In addition, the October 31, 2003, letter relays the intention to add guidance addressing potential blockages formed downstream of the containment sump, as part of this effort. Once again, NEI relayed that it is awaiting NRC response to the draft methodology before submitting

its final version of the overall methodology. To expedite the overall review process, NRC staff requests that the evaluation model and/or characterization of downstream effects be transmitted for review as soon as possible.

Two other open issues are noted in the letter -- chemical effects testing and calcium silicate debris testing. Testing for the chemical effects is being planned between the Office of Regulatory Research and the industry; therefore, if the results are not available in time to meet the schedule, then conservative treatment for those effects must be factored into the methodology. However, the report detailing the effects of calcium silicate debris is planned for issuance by LANL in February 2004. Therefore it should be specifically addressed in the guidance document.

LANL's preliminary review identifies a number of problems with the methodology which, together with the omission of significant elements specified above and the draft quality and status of the methodology, pose some concern for meeting the schedule. Contact Angie Lavretta at (301) 415-3285 or Ralph Architzel at (301) 415-2804, of my staff, to discuss any questions on LANL's comments. Please apply the level of effort necessary to provide a complete, nondraft version of the methodology by April 15, 2004. Our schedule requires that we have the final methodology transmitted to us by July 15, 2004.

Sincerely,



Suzanne C. Black, Director
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

Enclosure: As stated

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